

CLAIMS

We claim:

1. A method of providing communication between a provider endpoint at a provider location and a user endpoint at a user location behind a data firewall, the method comprising the steps of:
 - receiving a connection signal from a soft switch at the provider location, wherein a data portion of the connection signal includes a private connection address associated with the provider endpoint;
 - modifying the data portion of the connection signal by substituting a public connection address for the private connection address; and
 - sending the modified connection signal to the user endpoint.
2. The method according to claim 1 further comprising the step of opening a voice communication port, wherein the voice communication port provides a voice line between the user endpoint and the provider endpoint.
3. The method according to claim 1 further comprising the step of opening a voice communication port, wherein the voice communication port is configured to receive signals from the user endpoint at the public connection address and is configured to receive signals from the provider endpoint at the private connection address.

- 1 4. The method according to claim 1, wherein the user endpoint is an IP telephone.
- 1 5. The method according to claim 4, wherein the IP telephone is behind a conventional
2 firewall.
- 1 6. The method according to claim 1, wherein the provider endpoint is a gateway connected to a
2 public switched telephone network.
- 1 7. The method according to claim 1, wherein the provider endpoint is an IP telephone.

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1 8. A method of providing communication between a provider endpoint at a provider location
2 and a user endpoint at a user location, the method comprising the steps of:

3 receiving a connection signal from a soft switch at the provider location, wherein a data
4 portion of the connection signal includes a private connection address associated
5 with the provider endpoint;

6 storing the private connection address;

7 modifying the connection signal by substituting a public connection address for the
8 private connection address;

9 opening a voice communication port to provide communications between the user
10 endpoint and the provider endpoint; and

11 sending the modified connection signal to the user endpoint.

12 9. The method according to claim 8, wherein the voice communication port is configured to
13 receive signals from the user endpoint at the public connection address and is configured to
14 receive signals from the provider endpoint at the private connection address.

15 10. The method according to claim 8, wherein the user endpoint is an IP telephone.

16 11. The method according to claim 10, wherein the IP telephone is behind a conventional
17 firewall.

1 12. The method according to claim 8, wherein the provider endpoint is a gateway connected to a
2 public switched telephone network.

1 13. The method according to claim 8, wherein the provider endpoint is an IP telephone.

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1 14. A voice firewall comprising:

2 a command input port;

3 a command output port;

4 a processor electrically connected to the command input port and the command output

5 port, wherein the processor is configured to receive a connection signal through

6 the command input port, wherein the processor is further configured to substitute

7 a public connection address for a private connection address embedded within a

8 data portion of the connection signal; and

9 a voice communication port electrically connected to the processor, wherein the voice

10 communication port is associated with the private connection address on a private

11 side of the voice firewall and is associated with the public connection address on a

12 public side of the voice firewall.

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1 17. The voice firewall according to claim 14, wherein:

2 the command input port and the command output port provide a conduit through the
3 voice firewall for a command session between a soft switch at a provider location
4 and a user endpoint at a user location; and
5 the processor authenticates signals from user endpoint prior to initiation of the command
6 session.

1 18. The voice firewall according to claim 14, wherein the processor provides firewall security
2 for devices at a provider location by hiding the private addresses of the devices.

3 19. The voice firewall according to claim 14, wherein:

4 the processor is electrically connected to a provider location on the private side of the voice
5 firewall and is electrically connected to a user location on the public side of the voice firewall;
6 and

the processor facilitates communication between a user endpoint at the user location and a
provider endpoint at the provider location.

1 20. A computer program product comprising:
2 instructions for receiving a connection signal from a provider endpoint at a provider
3 location;
4 instructions for substituting a public connection address for a private connection address
5 embedded within a data portion of the connection signal; and
6 instructions for sending the modified connection signal to a user endpoint at a user
7 location.

1 21. The computer program product according to claim 20 further comprising instructions for
2 storing the private connection address.

1 22. The computer program product according to claim 20 further comprising instructions for
2 opening a voice communication port to provide communications between the user endpoint
3 and the provider endpoint.

1 23. The computer program product according to claim 20, wherein the user endpoint is an IP
2 telephone.

1 24. The computer program product according to claim 20, wherein the provider endpoint is a
2 gateway connected to a public switched telephone network.

1 25. The computer program product according to claim 20, wherein the provider endpoint is an
2 IP telephone.

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26. A method of providing voice communication between two endpoints over a digital network,

the method comprising the steps of:

receiving a Connect command that includes a private connection address embedded in a

data portion of the Connect command;

modifying the Connect command to substitute a public connection address for the private

connection address; and

sending the modified Connect command to one of the endpoints.

[illegible]